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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,832	01/11/2002	Donn Nathan Boatman	8835	1184

27752 7590 04/26/2004

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EXAMINER

NGUYEN, ANTHONY H

ART UNIT

PAPER NUMBER

2854

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/043,832	Applicant(s) BOATMAN ET AL.	
	Examiner Anthony H Nguyen	Art Unit 2854	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 02 February 2004.

2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-17, 20 and 23 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-8, 10-13 and 23 is/are rejected.

7) ☒ Claim(s) 9, 14-17 and 20 is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 02 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_

4) ☐ Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: \_\_\_\_\_

### **Claim Rejections - 35 U.S.C. § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2, 4-7, 11-13 and 23 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over the admitted prior art of Figures 12 and 13 in view of Platsch (US 5,502,788).

With respect to claims 1,2,12, and 13, the admitted prior art of Figures 12 and 13 teaches a cleaning apparatus having substantially the structure as recited. For examples, the admitted prior art teaches a plenum (the upper part of Fig.12), a head (the lower part of Fig.12) which includes two banks of air jets and vacuum ports (which appears to have three vacuum ports) connected to the plenum and a nozzle inside one of the vacuum ports. The admitted prior art does not teach the banks of air jets which are offset to each other. Platsch teaches a drier 12 having two parallel rows or banks of air nozzles or air jets 32 and 34 in which a bank of air jets 32 is offset from a bank of air jets 34 as shown in Figures 3 and 4 of Platsch. In view of the teaching of Platsch, it would have been obvious to one of ordinary skill in the art to modify the two banks of air jets of the admitted prior art by providing the bank of air jets which are offset from each other as taught by Platsch for optimum cleaning effects on the surface of a cylinder.

With respect to claims 4, 11 and 23, the selection of a desired velocity, the droplet size of the cleaning fluid and the vacuum flow rate would be obvious through routine experimentation in order to get best possible cleaning effects on the surface to be cleaned.

With respect to claim 5,6,7, 11, Figures 12 (the bottom) of the admitted prior art shows a curve edge of the aerodynamic surface of the head relative the curve surface of a cylinder.

Claim 3 is rejected under 35 U.S.C. § 103 (a) as being unpatentable over the admitted prior art of Figures 12 and 13 in view of Platsch as applied to claims 1,2, 4-7, 11-13 and 23 above, and further in view of Flynn et al. (US 4,872,920).

The admitted prior art of Figures 12 and 13 and Platsch teach all that is claimed, except for the nozzle which is positioned outboard of the vacuum ports. Flynn et al. teaches the nozzles 14 positioned inside or outside the vacuum port 74 in the suction head 15 as shown in Figs. 2 and 4 of Flynn et al. It would have been obvious to one of ordinary skill in the art to modify the cleaning apparatus of the admitted prior art of Figures 12 and 13 and Platsch by providing the nozzle positioned outboard of the vacuum ports as taught by Flynn et al. for quickly mounting a selected nozzle to a head of a cleaning apparatus for cleaning.

Claims 8 and 10 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over the admitted prior art of Figures 12 and 13 in view of Platsch as applied to claims 1,2, 4-7, 11-13, and 23 above, and further in view of Olbrant et al. (US 3,775,806).

With respect to claim 8, the admitted prior art of Figures 12, 13 and Platsch teach all that is claimed, except for the partition of the vacuum ports having a beveled edge. Olbrant et al. teaches an apparatus for removing and collecting dust having a blowing box or a housing which includes a partition 4a having a beveled edge positioned inside a suction box 6. The beveled edge is positioned close to the inturned lips 27 or the outturned lips 38 to facilitate the flow of air to the suction box 36 (Olbrant et al., Figs. 1,3 and 4). To one of ordinary skill in the art, it would have been obvious to modify the partition separating the vacuum port in the admitted prior art by providing the beveled edge as taught by Olbrant et al. for increasing the velocity of the cleaning fluid to the suction box.

With respect to claim 10, the admitted prior art of Figures 12, 13 and Platsch teach all that is claimed, except for the anti-plate striping element. Olbrant et al. teaches a guiding bar 39 (Fig. 4 of Olbrant et al.) which functions as an anti-plate striping element. It would have been

obvious to one of ordinary skill in the art to modify the cleaning apparatus of the admitted prior art of Figures 12,13 and Platsch by providing the anti-plate striping element as taught by Olbrant et al. for optimum of protecting of the surface to be cleaned.

### *Allowable Subject Matter*

As presently advised it appears that claims 9 and 14 avoid the prior art but are objected to as depending from a rejected claim. These claims if properly rewritten in independent form would be allowable.

The following is a statement of reasons for the indication of allowable subject matter: The primary reason for allowance of claims 9 and 14 is that the prior art of record does not teach the vacuum ports having a partition including a beveled edge which is at an angle of less than about 45 degrees from the surface of the partition.

### *Response to Arguments*

Applicants' arguments filed on February 02, 2004 have been fully considered but they are not persuasive of any error in the above rejections.

Applicant argues that the Platsch does not teach the use of air jets for the purposes of disrupting the boundary layer of air on the surface, placing contaminants in suspension with the cleaning fluid and drying the surface after the application of the cleaning fluid.

However, applicants' arguments are more specific than the limitations in the claims. For example, there is no disrupting the boundary layer of air on the surface nor cleaning fluid which is applied to the surface to be cleaned in the claims. As explained above, Platsch teaches clearly

the conventional use of two banks of air jets which are offset as recited. One of ordinary skill in the art would have been well aware of the well-known one bank of air jets which is offset from a second bank of air jets as exemplified by Platsch and would have found their use in Figures 12 and 13 of the admitted prior art.

Applicant argues that routine experiment will not alter the basis performance as shown in the prior art example shown in Table 1 since the table does not provide the droplet size and the local velocity.

It is noted that, as discussed above, the selection of a desired velocity, the droplet size of the cleaning fluid and the vacuum flow rate would be obvious through routine experimentation since the velocity, the size of the droplet, the material of fluid and the vacuum flow rate are interrelated in order to get a desired velocity of the droplet. While the prior art shows the vacuum flow rate outside the claimed range, one of ordinary skill in the art would increase or decrease the vacuum flow rate to achieve the claimed local velocity as recited. Thus, the selection of a desired velocity, the droplet size of the cleaning fluid and the flow rate is **NOT** unobvious in the sense of 35 U.S.C. 103.

### *Conclusion*

Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

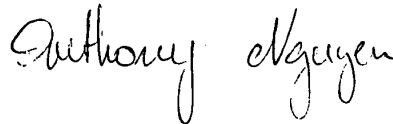
A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY

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ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Nguyen whose telephone number is (571) 272-2169. The examiner can normally be reached daily from 9 AM to 5PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld, can be reached on (571) 272-2168. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink that reads "Anthony Nguyen". The signature is written in a cursive, flowing style.

Anthony Nguyen  
4/22/04  
Patent Examiner  
Technology Center 2800